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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/935,126	08/21/2001	Lee E. Goldstein	09999-515	8381

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EXAMINER	
ROY, BAISAKHI	
ART UNIT	**PAPER NUMBER**
3737	

DATE MAILED: 03/25/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/935,126	GOLDSTEIN ET AL.	
	Examiner	Art Unit	
	Baisakhi Roy	3737	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-33 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-33 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on 28 January 2002 is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 1/4/02.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Specification

1. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

2. The abstract of the disclosure is objected to because it includes the implied phrase "The invention provides". Correction is required. See MPEP § 608.01(b).

Claim Objections

3. Claim 2 is objected to because of the following informalities: term "or" should be deleted. Appropriate correction is required.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1, 2, 4, 5, 7-9, 12, 14, 15, 18-24, 28-30, and 31-33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hageman (2003/0149997) in view of Nanjo et al. (5784146).

Regarding claims 1, 4, 5, 7, and 18, Hageman discloses a method of diagnosing an amyloidogenic disorder such as Alzheimer's Disease by detecting a polypeptide aggregate in ocular tissue ([0264] [0274] [0288]). Hageman does not however teach detection of said aggregate in specific regions of the ocular lens. Nanjo et al. disclose a method of conducting ophthalmic measurements of protein accumulation in ocular lens tissue by detecting said polypeptide aggregate in various regions of lens tissue including the supranuclear and cortical region of an ocular lens. Nanjo et al. teach analyzing protein accumulation in various layers of the lens such as the cortex, capsule and nucleus (col. 6 lines 27-67, col. 7 lines 21-24). It would have therefore been obvious to one of ordinary skill in the art to use the teaching by Nanjo et al. regarding the analysis of lens proteins to modify the teaching by Hageman for the purpose of detecting said aggregate in the various regions of ocular lens tissue.

Regarding claim 2, Hageman teaches analyzing said aggregate by slit lamp examination ([0048]).

Regarding claims 8 and 9, Hageman teaches said polypeptide aggregate to comprise a β-amyloid precursor protein ([0253] [0289] [0324] Table A Gene Array Analysis Database 3).

Regarding claims 14 and 15, Hageman teaches said polypeptide aggregate to comprise an ocular crystallin protein such as α crystallin (see Gene Array Analysis Database 3).

Regarding claims 19-22, Hageman discloses a method of identifying an amyloidogenic disorder in a mammal by studying Aβ amyloid protein accumulation in ocular tissue ([0264] [0274] [0288]). Hageman however does not teach detection of said aggregate in specific regions of the ocular lens. Nanjo et al. disclose a method of conducting ophthalmic measurements of protein accumulation in lens tissue by detecting said polypeptide aggregate in a supranuclear or cortical region of an ocular lens. Nanjo et al. teach analyzing protein accumulation in various layers of the lens such as the cortex, capsule and nucleus (col. 6 lines 27-67, col. 7 lines 21-24). The reference teaches illuminating mammalian lens tissue with a light beam and detecting scattered light emitted from said tissue (abstract). It would have therefore been obvious to one of ordinary skill in the art to use the teaching by Nanjo et al. regarding the excitation of light beam into mammalian lens tissue to modify the teaching by Hageman for the purpose of generating a method that is indicative of the mammal's risk of developing an amyloidogenic disorder or for the purpose of comparing normal control value to an increase in the amount of aggregate in mammalian lens tissue.

Regarding claims 23 and 24, Hageman does not teach a laser light source. Nanjo et al. as set forth above teach the use of a laser light source with an excitation beam wavelength of 350-850 nm (abstract, col. 4 lines 14-33). It would have therefore been obvious to one of ordinary skill in the art to use the laser light beam teaching by

Hageman to modify the teaching by Nanjo et al. for the purpose of applying a laser light beam of said wavelength to illuminate the tissue structure.

Regarding claims 28-30, Hageman discloses a method of identifying an amyloidogenic disorder in a mammal by studying Aβ amyloid protein accumulation in ocular tissue ([0264] [0274] [0288]). Hageman however does not teach detection of said aggregate in with an excitation light beam and detection of the scattered light. Nanjo et al. disclose a method of conducting ophthalmic measurements of protein accumulation in lens tissue by illuminating mammalian lens tissue with a light beam and detecting scattered light emitted from said tissue (abstract). It would have therefore been obvious to one of ordinary skill in the art to use the teaching by Nanjo et al. regarding the excitation of light beam into mammalian lens tissue to modify the teaching by Hageman for the purpose of generating a method indicative of the mammal's risk of developing an amyloidogenic disorder.

Regarding claims 31-33, Hageman as set forth above teaches a method of diagnosing a neurodegenerative disorder but do not teach detecting said polypeptide aggregate in a supranuclear or cortical region of an ocular lens. Nanjo et al. teach analyzing protein accumulation in various layers of the lens such as the cortex, capsule and nucleus (col. 6 lines 27-67, col. 7 lines 21-24). It would have therefore been obvious to one of ordinary skill in the art to use the teaching by Nanjo et al. regarding light illumination in various regions of the lens to modify the teaching by Hageman for the purpose of comparing normal control value to an increase in the amount of aggregate in mammalian lens tissue.

3. Claims 3, 6, 16 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hageman in view of Nanjo et al. as set forth above, and further in view of Brussel et al. (4836207). Hageman in view of Nanjo et al. do not explicitly teach detection of the polypeptide aggregate by Scheimpflug optics, quasi-elastic light scattering, and Raman spectroscopy. Brussel et al. disclose a method of conducting ophthalmic measurements of protein accumulation in lens tissue by detecting said polypeptide aggregate in ocular lens. The reference teaches illuminating mammalian lens tissue with a light beam and detecting scattered light emitted from said tissue with said scattered light detected by quasi-elastic light scattering and Raman spectroscopy (col. 2 lines 1-5, col. 3 lines 12-15 lines 49-54). The reference also teaches the use of Scheimpflug optics (col. 3 lines 25-30 lines 42-46). It would have therefore been obvious to one of ordinary skill in the art to use the polypeptide aggregate detection technique teaching by Brussel et al. to modify the teaching by Hageman and Nanjo et al. for the purpose of detecting the polypeptide accumulation in mammalian lens by Scheimpflug optics, quasi-elastic light scattering and Raman spectroscopy.

4. Claims 10, 12, and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hageman in view of Nanjo et al. as set forth above, and further in view of Schenk (6818218). Hageman in view of Nanjo et al. do not explicitly teach said polypeptide aggregate to comprise a prion protein and where said amyloid protein is $A\beta_{1-42}$. Schenk discloses a method of detecting amyloidogenic diseases by detecting amyloid protein $A\beta_{1-42}$ (col. 2 lines 36-37). Schenk further teaches said amyloid protein to comprise a prion protein (col. 6 lines 6-10). It would have therefore been obvious to

one of ordinary skill in the art to use the amyloid protein component teaching by Schenk to modify the teaching by Hageman and Nanjo et al. for the purpose of using various components of the polypeptide aggregate to detect the presence of an amyloidogenic disorder.

5. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hageman in view of Nanjo et al. as set forth above, and further in view of Jensen et al. (2002/0187157). Hageman in view of Nanjo et al. do not teach said polypeptide aggregate to comprise α- synuclein. Jensen et al. disclose a method for analyzing amyloid protein accumulation (abstract) with said polypeptide comprising of α- synuclein ([0244] and claim 20). It would have therefore been obvious to one of ordinary skill in the art to use the teaching by Jensen et al. regarding the α- synuclein component of the amyloid protein to detect the presence of an amyloidogenic disorder.

6. Claim 25 is rejected under 35 U.S.C. 103(a) as being unpatentable over Hageman in view of Nanjo et al. as set forth above, and further in view of Alkon et al. (6107050). Hageman do not teach the use of a fluorimeter. Alkon et al. disclose a method of diagnosing an amyloidogenic disorder with the use of a fluorimeter to distinguish between the presence or absence of an amyloidogenic disorder such as Alzheimer's Disease (col. 11 lines 26-36, col. 12 lines 17-25). It would have therefore been obvious to one of ordinary skill in the art to use the teaching by Alkon et al. regarding the use of a fluorimeter to modify the teaching by Hageman and Nanjo et al. for the purpose of making an effective diagnosis to distinguish between patients with Alzheimer's and patients without Alzheimer's.

7. Claims 26 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hageman in view of Nanjo et al. as set forth above, and further in view of Brussel et al. Hageman do not teach detecting said polypeptide aggregate by a Raman spectroscopic technique and by quasi-elastic light scattering. Brussel et al. disclose a method of conducting ophthalmic measurements of protein accumulation in lens tissue by detecting said polypeptide aggregate in a supranuclear or cortical region of an ocular lens. The reference teaches illuminating mammalian lens tissue with a light beam and detecting scattered light emitted from said tissue with said scattered light detected by quasi-elastic light scattering and Raman spectroscopy (col. 2 lines 1-5, col. 3 lines 12-15 lines 49-54). It would have therefore been obvious to one of ordinary skill in the art to use the Brussel et al. teaching to modify the teaching by Hageman for the purpose of detecting the polypeptide aggregate by quasi-elastic light scattering and Raman spectroscopy.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Baisakhi Roy whose telephone number is 571-272-7139. The examiner can normally be reached on M-F (7:30 a.m. - 4p.m.).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian L. Casler can be reached on 571-272-4956. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

B.R.

BR

ELENI KANTIS-MERCADER
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